WHAT IS CLAIMED IS:

1.   A computer-implemented system for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, the system comprising:

        a memory configured to store instructions;

        a processor configured to execute instructions for:

            a predictive model that predicts an output from data input,

            an optimizer that optimizes input variables based upon desired output variables,

            a library that stores data and information, and

            an artificial intelligence that receives requests and information from one of manufacturers or customers, and directs the requests and information to the predictive model if an output prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized input based on a desired output is requested by one of the manufacturers or customers, or to the library if the requests from one of the manufacturers or customers cannot be answered by the predictive model or the optimizer, wherein the predictive model, the optimizer, and the library interconnect with the artificial intelligence; and

            a high-throughput screening system for analyzing various material combinations and sending data to the library.

2.   A computer-implemented system as recited in claim 1, wherein the predictive model further performs a what if analysis.

1   3.   A computer-implemented system as recited in claim 1, wherein the artificial

2   intelligence receives requests and information from one of the manufacturers or customers via the

3   Internet.

1   4.   A computer-implemented system as recited in claim 1, wherein the high-throughput

2   screening system sends data via the Internet.

1   5.   A computer-implemented system as recited in claim 1, further comprising means for

2   supplying information and data received from one of research laboratories or universities, via the

3   Internet, to the library.

1   6.   A computer-implemented system as recited in claim 1, further comprising means for

2   supplying information and data received from the Internet regarding the latest developments in the

3   field of one of the manufacturers or customers to the library.

1   7.   A computer-implemented system for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, the system

3   comprising:

4   a memory configured to store instructions;

5   a processor configured to execute instructions for:

6   a predictive model that predicts an output from input data supplied by one of

7   manufacturers or customers,

8   an optimizer that optimizes input variables based upon desired output

9   variables requested by one of the manufacturers or customers, and

10   a library that stores data and information from one of the manufacturers or

11   customers; and

12   a high-throughput screening system for analyzing various material combinations and

13   sending data to the library.

1   8.   A computer-implemented system as recited in claim 7, wherein the predictive model

2   further performs a what if analysis.

1   9.   A computer-implemented system as recited in claim 7, wherein the requests and

2   information from one of the manufacturers or customers is supplied via the Internet.

1   10.   A computer-implemented system as recited in claim 7, wherein the high-throughput

2   screening system sends data via the Internet.

1   11.   A computer-implemented system as recited in claim 7, further comprising means for

2   supplying information and data received from one of research laboratories or universities, via the

3   Internet, to the library.

1   12.   A computer-implemented system as recited in claim 7, further comprising means for

2   supplying information and data received from the Internet regarding the latest developments in the

3   field of one of the manufacturers or customers to the library.

13.   A computer-implemented method for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, comprising:

providing a predictive model that predicts an output from data input;

providing an optimizer that optimizes input variables based upon desired output variables;

providing a library that stores data and information;

providing an artificial intelligence that receives requests and information from one of manufacturers or customers, and directs the requests and information to the predictive model if an output prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized input based on a desired output is requested by one of the manufacturers or customers, or to the library if the requests from one of the manufacturers or customers cannot be answered by the predictive model or the optimizer, wherein the predictive model, the optimizer, and the library interconnect with the artificial intelligence; and

providing a high-throughput screening system for analyzing various material combinations and sending data to the library.

14.   A computer-implemented method as recited in claim 13, wherein the predictive model further performs a what if analysis.

15.   A computer-implemented method as recited in claim 13, wherein the artificial intelligence receives requests and information from one of the manufacturers or customers via the Internet.

1   16.   A computer-implemented method as recited in claim 13, wherein the high-throughput

2   screening system sends data via the Internet.

1   17.   A computer-implemented method as recited in claim 13, further comprising supplying

2   information and data received from one of research laboratories or universities, via the Internet, to

3   the library.

1   18.   A computer-implemented method as recited in claim 13, further comprising supplying

2   information and data received from the Internet regarding the latest developments in the field of one

3   of the manufacturers or customers to the library.

1   19.   A computer-implemented method for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, comprising:

3   providing a predictive model that predicts an output from input data supplied by one

4   of manufacturers or customers;

5   providing an optimizer that optimizes input variables based upon desired output

6   variables requested by one of the manufacturers or customers;

7   providing a library that stores data and information from one of the manufacturers or

8   customers; and

9   providing a high-throughput screening system for analyzing various material

10   combinations and sending data to the library.

1   20.   A computer-implemented method as recited in claim 19, wherein the predictive

2   model further performs a what if analysis.

1   21.   A computer-implemented method as recited in claim 19, wherein the requests and

2   information from one of the manufacturers or customers is supplied via the Internet.

1   22.   A computer-implemented method as recited in claim 19, wherein the high-throughput

2   screening system sends data via the Internet.

1   23.   A computer-implemented method as recited in claim 19, further comprising supplying

2   information and data received from one of research laboratories or universities, via the Internet, to

3   the library.

1   24.   A computer-implemented method as recited in claim 19, further comprising supplying

2   information and data received from the Internet regarding the latest developments in the field of one

3   of the manufacturers or customers to the library.

1   25.   A method for measuring and improving manufacturing processes and maximizing

2   product research and development speed and efficiency, comprising:

3   predicting an output from data input with a predictive model;

4   optimizing input variables based upon desired output variables with an optimizer;

5   storing data and information in a library;

6   receiving requests and information from one of manufacturers or customers with an

7   artificial intelligence, and directing the requests and information to the predictive model if an output

8   prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized

9   input based on a desired output is requested by one of the manufacturers or customers, or to the

10   library if the requests from one of the manufacturers or customers cannot be answered by the

11   predictive model or the optimizer; and

12   analyzing various material combinations and sending data to the library with a high-

13   throughput screening system.

1   26.   A method as recited in claim 25, wherein the predictive model further performs a

2   what if analysis.

1   27.   A method as recited in claim 25, wherein the artificial intelligence receives requests

2   and information from one of the manufacturers or customers via the Internet.

1   28.   A method as recited in claim 25, wherein the high-throughput screening system sends

2   data via the Internet.

1   29.   A method as recited in claim 25, further comprising supplying information and data

2   received from one of research laboratories or universities, via the Internet, to the library.

1   30.   A method as recited in claim 25, further comprising supplying information and data

2   received from the Internet regarding the latest developments in the field of one of the manufacturers

3   or customers to the library.

31.   A method for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, comprising:

predicting an output from input data supplied by one of manufacturers or customers with a predictive model;

optimizing input variables based upon desired output variables requested by one of the manufacturers or customers with an optimizer;

storing data and information from one of the manufacturers or customers in a library; and

analyzing various material combinations and sending data to the library with a high-throughput screening system.

32.   A method as recited in claim 31, wherein the predictive model further performs a what if analysis.

33.   A method as recited in claim 31, wherein the requests and information from one of the manufacturers or customers is supplied via the Internet.

34.   A method as recited in claim 31, wherein the high-throughput screening system sends data via the Internet.

35.   A method as recited in claim 31, further comprising supplying information and data received from one of research laboratories or universities, via the Internet, to the library.

1   36.   A method as recited in claim 31, further comprising supplying information and data

2   received from the Internet regarding the latest developments in the field of one of the manufacturers

3   or customers to the library.

1   37.   A computer readable medium that stores instructions executable by at least one

2   processor to perform a method for measuring and improving manufacturing processes and

3   maximizing product research and development speed and efficiency, comprising instructions for:

4   predicting an output from data input with a predictive model;

5   optimizing input variables based upon desired output variables with an optimizer;

6   storing data and information in a library; and

7   receiving requests and information from one of manufacturers or customers with an

8   artificial intelligence, and directing the requests and information to the predictive model if an output

9   prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized

10   input based on a desired output is requested by one of the manufacturers or customers, or to the

11   library if the requests from one of the manufacturers or customers cannot be answered by the

12   predictive model or the optimizer, wherein various material combinations are analyzed and data is

13   sent to the library with a high-throughput screening system.

1   38.   A computer readable medium as recited in claim 37, wherein the predictive model

2   further performs a what if analysis.

1   39.   A computer readable medium as recited in claim 37, wherein the artificial intelligence

2   receives requests and information from one of the manufacturers or customers via the Internet.

1   40.   A computer readable medium as recited in claim 37, wherein the high-throughput

2   screening system sends data via the Internet.

1   41.   A computer readable medium as recited in claim 37, wherein information and data

2   received from one of research laboratories or universities is supplied, via the Internet, to the library.

1   42.   A computer readable medium as recited in claim 37, wherein information and data

2   received from the Internet regarding the latest developments in the field of one of the manufacturers

3   or customers is supplied to the library.

1   43.   A computer readable medium that stores instructions executable by at least one

2   processor to perform a method for measuring and improving manufacturing processes and

3   maximizing product research and development speed and efficiency, comprising instructions for:

4   predicting an output from input data supplied by one of manufacturers or customers

5   with a predictive model;

6   optimizing input variables based upon desired output variables requested by one of

7   the manufacturers or customers with an optimizer; and

8   storing data and information from one of the manufacturers or customers in a library;

9   wherein various material combinations are analyzed and data is sent to the library with a high-

10   throughput screening system.

1   44.   A computer readable medium as recited in claim 43, wherein the predictive model

2   further performs a what if analysis.

1   45.   A computer readable medium as recited in claim 43, wherein the requests and

2   information from one of the manufacturers or customers is supplied via the Internet.

1   46.   A computer readable medium as recited in claim 43, wherein the high-throughput

2   screening system sends data via the Internet.

1   47.   A computer readable medium as recited in claim 43, wherein information and data

2   received from one of research laboratories or universities is supplied, via the Internet, to the library.

1   48.   A computer readable medium as recited in claim 43, wherein information and data

2   received from the Internet regarding the latest developments in the field of one of the manufacturers

3   or customers is supplied to the library.

1   49.   A computer-implemented system for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, the system

3   comprising:

4   a memory configured to store instructions; and

5   a processor configured to execute instructions for:

6   a predictive model that predicts an output from data input,

7   an optimizer that optimizes input variables based upon desired output

8   variables,

9   a library that stores data and information, and

10   an artificial intelligence that receives requests and information from one of

11   manufacturers or customers, and directs the requests and information to the

12   predictive model if an output prediction is requested by one of the manufacturers or

13   customers, to the optimizer if an optimized input based on a desired output is

14   requested by one of the manufacturers or customers, or to the library if the requests

15   from one of the manufacturers or customers cannot be answered by the predictive

16   model or the optimizer, wherein the predictive model, the optimizer, and the library

17   interconnect with the artificial intelligence.

1   50.   A computer-implemented system for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, the system

3   comprising:

4   a memory configured to store instructions; and

5   a processor configured to execute instructions for:

6   a predictive model that predicts an output from input data supplied by one of

7   manufacturers or customers,

8   an optimizer that optimizes input variables based upon desired output

9   variables requested by one of the manufacturers or customers, and

10   a library that stores data and information from one of the manufacturers or

11   customers.

1   51.   A computer-implemented method for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, comprising:

3   providing a predictive model that predicts an output from data input;

4   providing an optimizer that optimizes input variables based upon desired output

5   variables;

6   providing a library that stores data and information; and

7   providing an artificial intelligence that receives requests and information from one of

8   manufacturers or customers, and directs the requests and information to the predictive model if an

9   output prediction is requested by one of the manufacturers or customers, to the optimizer if an

10   optimized input based on a desired output is requested by one of the manufacturers or customers, or

11   to the library if the requests from one of the manufacturers or customers cannot be answered by the

12   predictive model or the optimizer, wherein the predictive model, the optimizer, and the library

13   interconnect with the artificial intelligence.

1   52.   A computer-implemented method for measuring and improving manufacturing

2   processes and maximizing product research and development speed and efficiency, comprising:

3   providing a predictive model that predicts an output from input data supplied by one

4   of manufacturers or customers;

5   providing an optimizer that optimizes input variables based upon desired output

6   variables requested by one of the manufacturers or customers; and

7   providing a library that stores data and information from one of the manufacturers or

8   customers.

53. A method for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, comprising:

predicting an output from data input with a predictive model;

optimizing input variables based upon desired output variables with an optimizer;

storing data and information in a library; and

receiving requests and information from one of manufacturers or customers with an artificial intelligence, and directing the requests and information to the predictive model if an output prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized input based on a desired output is requested by one of the manufacturers or customers, or to the library if the requests from one of the manufacturers or customers cannot be answered by the predictive model or the optimizer.

54. A method for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, comprising:

predicting an output from input data supplied by one of manufacturers or customers with a predictive model;

optimizing input variables based upon desired output variables requested by one of the manufacturers or customers with an optimizer; and

storing data and information from one of the manufacturers or customers in a library.

55. A computer readable medium that stores instructions executable by at least one processor to perform a method for measuring and improving manufacturing processes and maximizing product research and development speed and efficiency, comprising instructions for:

4   predicting an output from data input with a predictive model;

5   optimizing input variables based upon desired output variables with an optimizer;

6   storing data and information in a library; and

7   receiving requests and information from one of manufacturers or customers with an

8   artificial intelligence, and directing the requests and information to the predictive model if an output

9   prediction is requested by one of the manufacturers or customers, to the optimizer if an optimized

10   input based on a desired output is requested by one of the manufacturers or customers, or to the

11   library if the requests from one of the manufacturers or customers cannot be answered by the

12   predictive model or the optimizer.

1   56.   A computer readable medium that stores instructions executable by at least one

2   processor to perform a method for measuring and improving manufacturing processes and

3   maximizing product research and development speed and efficiency, comprising instructions for:

4   predicting an output from input data supplied by one of manufacturers or customers

5   with a predictive model;

6   optimizing input variables based upon desired output variables requested by one of

7   the manufacturers or customers with an optimizer; and

8   storing data and information from one of the manufacturers or customers in a library.